AMENDMENTS TO THE CLAIMS

<u>Claims Pending:</u>

- At time of the Action: Claims 1-16, 18-34, 36-42, 44-52, 54, 73-76, and 78
- Amended Claims: Claims 1, 19-34, 36, 37, 73-76, and 78
- After this Response: Claims 1-16, 18-34, 36-42, 44-52, 54, 73-76, and 78

The following listing of claims replaces all prior versions and listings of claims in the application.

1.   (Currently Amended) In a distributed computing environment, a computer-implemented method for dynamically implementing a workflow responsive to state changes of objects in a directory, the directory comprising a network-based directory service providing storage and lookup of objects corresponding to resources, the workflow comprising stored information defining a plurality of tasks and flow between the tasks, the method comprising:

automatically detecting a state change to an object in the directory, and

responsive to detecting the state change, automatically:

mapping the state change to the object to the workflow; and

executing one of the tasks of the workflow[.] ;

<u>wherein the workflow comprises an XML string having a plurality of defined workflows and a set of categorization rules that map a detected event to the defined workflows.</u>

2.   (Previously Presented) The method of claim 1, wherein executing the task further comprises storing a change in state of the workflow corresponding to the one of the tasks.

3.   (Previously Presented) The method of claim 1, wherein executing the task further comprises executing an operation of a task of the plurality of tasks until convergence of a desired state is identified.

4.   (Previously Presented) The method of claim 1, wherein executing the task further comprises storing a sequence of operations based on the tasks.

5.   (Previously Presented) The method of claim 1, wherein executing the task further comprises storing information corresponding to one or more directory objects to which the workflow applies.

6.   (Previously Presented) The method of claim 1, wherein executing the task further comprises storing status information based on respective status of at least one other task of the workflow.

7.   (Previously Presented) The method of claim 1, wherein mapping the state change to the object to the workflow further comprises evaluating the state change to the object based on a declarative condition stored as a text string on an object instance of a

content class defined by a schema.

8.   (Previously Presented) The method of claim 1, wherein one of the tasks comprises any combination of a declarative condition or an operation that is stored as a text string in an object corresponding to the one of the tasks.

9.   (Previously Presented) The method of claim 1, wherein semantics of the workflow are based on a workflow schema.

10.   (Previously Presented) The method of claim 1, wherein semantics of the mapping of the state change to the object to the workflow are based on an event association object schema.

11.   (Previously Presented) The method of claim 1, wherein at least some of the tasks are executed with respect to one another based on an order of execution relationship comprising a finish-start relationship, a parallel execution relationship, a precedence constraint relationship, or a task priority relationship.

12.   (Previously Presented) The method of claim 1, wherein at least some of the tasks are executed with respect to one another based on a precedence constraint relationship or a task priority relationship.

13.   (Previously Presented) The method of claim 1, wherein the method further comprises: monitoring a status corresponding to a task of the tasks;

storing the status on a status monitoring object; and

wherein a content class in a directory schema defines the status-monitoring object.

14.   (Previously Presented) The method of claim 1, wherein the method further comprises: monitoring a set of directory resources affected by the workflow;

storing the directory resources on a status monitoring object; and

wherein a content class in a directory schema defines the status-monitoring object.

15.   (Previously Presented) The method of claim 1, wherein the method further comprises: monitoring a status corresponding to an operation of the workflow;

determining that the status comprises a failure status; and

responsive to the determining, taking a corrective action to advance the workflow in view of the failure status.

16.   (Previously Presented) The method of claim 1, wherein executing the task further comprises:

updating a status corresponding to the task in the workflow; and

evaluating the workflow to determine that a next task of the tasks needs to be implemented.

17.   (Cancelled).

18.   (Previously Presented) The method of claim 1, wherein the tasks implement a policy with respect to one or more directory resources, and wherein mapping the state change to the object to the workflow further comprises automatically determining the workflow based on the policy.

19.   (Currently Amended) One or more computer-readable storage medium comprising computer-executable instructions to implement a plurality of workflows responsive to state changes to objects in the directory, the directory comprising a network-based directory service allowing devices on a network to store, modify, and lookup objects corresponding to resources, the workflows comprising stored information defining respective pluralities of tasks and flow therebetween, the computer-executable instructions comprising instructions for performing a process, the process comprising:

detecting a state change to an object in the directory, and

responsive to detecting the state change:

identifying, among the plurality of workflows, one of the workflows to which the object corresponds; and

executing one or more tasks of the identified workflow [.] ;

wherein the workflow comprises an XML string based on a set of categorization rules.

20.   (Currently Amended) The computer-readable storage medium of claim 19, wherein the executing the task further comprises storing a state of the workflow as changed by execution of the task.

21.   (Currently Amended) The computer-readable storage medium of claim 19, wherein the executing the task further comprises executing an operation of a task of the tasks until a desired state is identified.

22.   (Currently Amended) The computer-readable storage medium of claim 19, wherein the executing the task further comprises storing a sequence of operations based on the plurality tasks.

23.   (Currently Amended) The computer-readable storage medium of claim 19, wherein executing the task further comprises storing information corresponding to one or more objects in the directory to which the workflow applies.

24.   (Currently Amended) The computer-readable storage medium of claim 19, wherein the executing the task further comprises storing status information based on respective status of at least one subset of the tasks.

25.   (Currently Amended) The computer-readable storage medium of claim 19, wherein the identifying the workflow further comprises evaluating the state change to the

object based on content of the object.

26.   (Currently Amended) The computer-readable storage medium of claim 19, wherein a task of the tasks comprises any combination of declarative conditions and operations that are stored as a text string on one of the objects.

27.   (Currently Amended) The computer-readable storage medium of claim 19, wherein semantics of the workflow are based on a workflow schema.

28.   (Currently Amended) The computer-readable storage medium of claim 19, wherein the identifying the workflow is based on an event association object schema.

29.   (Currently Amended) The computer-readable storage medium of claim 19, wherein at least some of the tasks are executed with respect to one another based on an order of execution relationship comprising a finish-start relationship, a parallel execution relationship, a precedence constraint relationship, or a task priority relationship.

30.   (Currently Amended) The computer-readable storage medium of claim 19, wherein at least some of the tasks are executed with respect to one another based on a precedence constraint relationship or a task priority relationship.

31.   (Currently Amended) The computer-readable storage medium of

claim 19, wherein the computer-executable instructions further comprise instructions for:

automatically:

monitoring a status corresponding to a task of the tasks;

and storing the status on a status monitoring object.

32.   (Currently Amended) The computer-readable storage medium of claim 19, wherein the computer-executable instructions further comprise instructions for:

automatically:

monitoring a set of directory resources affected by the workflow; and

storing indicia of the directory resources in a status monitoring object.

33.   (Currently Amended) The computer-readable storage medium of claim 19, wherein the computer-executable instructions further comprises instructions for automated operations comprising:

monitoring, by a status-monitoring object in the directory, a status corresponding to an operation of the workflow;

determining that the status comprises a failure status; and

responsive to the determining, taking a corrective action to advance the workflow in view of the failure status.

34.   (Currently Amended) The computer-readable storage medium of claim 19, wherein the process further comprises:

updating a status corresponding to a task in the workflow; and

evaluating the workflow to determine that a next task of the tasks to be implemented.

35.   (Cancelled).

36.   (Currently Amended) The computer-readable storage medium of claim 19, wherein the tasks implement a policy with respect to one or more resources represented by objects in the directory, and the process further comprises automatically identifying the workflow based on the policy.

37.   (Currently Amended) A computing device configured to perform a process, the process comprising:

a memory;

a processor coupled to the memory for executing computer-executable instructions, the computer-executable instructions comprising instructions for:

detecting state changes to objects in a directory, the directory corresponding to a directory schema, the directory comprising a network-based directory service allowing devices on a network to store, modify, and lookup objects corresponding to resources; and

responding to detecting the state changes by mapping the state changes to workflows, the workflows comprising stored information defining respective pluralities of tasks and flow therebetween, the mapping including determining which state changes correspond to which workflows; and

executing tasks to which the state changes correspond, wherein the task executed for a state change is a task in a workflow that corresponds to the state change [.] ;

wherein the workflow comprises an XML string based on a set of categorization rules.

38.   (Previously Presented) The computing device of claim 37, wherein the process further comprises storing the desired state.

39.   (Previously Presented) The computing device of claim 37, wherein the executing the tasks further comprises repeatedly executing an operation of a task of the tasks until a desired state is identified.

40.   (Previously Presented) The computing device of claim 37, wherein the executing the tasks further comprises storing a sequence of operations based on the tasks.

41.   (Previously Presented) The computing device of claim 37, wherein executing the tasks further comprises storing information corresponding to one or more directory objects to which of the workflows applies.

42.   (Previously Presented) The computing device of claim 37, wherein the executing the tasks further comprises storing status information based on respective status of at least one subset of the tasks.

43.   (Cancelled).

44.   (Previously Presented) The computing device of claim 37, wherein a task of the tasks comprises any combination of one or more declarative conditions and one or more operations represented by a text string stored on an object instance.

45.   (Previously Presented) The computing device of claim 37, wherein semantics of the workflows are based on a workflow schema.

46.   (Previously Presented) The computing device of claim 37, wherein semantics of the mapping are based on an event association object schema.

47.   (Previously Presented) The computing device of claim 37, wherein at least some of the tasks in a workflow are executed with respect to one another based on an order of execution relationship comprising a finish-start relationship, a parallel execution relationship, a precedence constraint relationship, or a task priority relationship.

48.   (Previously Presented) The computing device of claim 37, wherein at least some of the tasks of one workflow are executed with respect to one another based on a precedence constraint relationship or a task priority relationship.

49.   (Previously Presented) The computing device of claim 37, wherein the process further comprises:

monitoring a status corresponding to a task of the tasks; and

storing the status on a status monitoring object.

50.   (Previously Presented) The computing device of claim 37, wherein the process_further comprises:

monitoring a set of directory resources affected by the workflow; and

storing the directory resources on a status monitoring object.

51.   (Previously Presented) The computing device of claim 37, wherein the process further comprises:

monitoring a status corresponding to an operation of the workflow;

determining that the status comprises a failure status; and

responsive to the determining, taking a corrective action to advance the workflow in view of the failure status.

52.   (Previously Presented) The computing device of claim 37, wherein the

process further comprises:

updating a status corresponding to a task in one of the workflows; and

responsive to the updating, evaluating the workflow to determine that a next task of the tasks needs to be implemented.

53.   (Cancelled).

54.   (Previously Presented) The computing device of claim 37, wherein the process implements a policy with respect to one or more directory resources, and wherein the mapping the state changes to the objects further comprises instructions for automatically determining the workflow based on the policy.

55-72. (Cancelled).

73. (Currently Amended) A computer-readable storage medium storing information comprising a workflow enabled directory schema for automated workflow implementation responsive to state changes to objects in a directory that corresponds to the directory schema, the directory comprising a network-based directory service allowing devices on a network to store, modify, and lookup objects corresponding to resources, the workflow enable directory schema defining a plurality of base object content classes comprising:

a service class to detect an event corresponding to a state change in a directory object;

a workflow content class for storing a sequence of tasks of a workflow and operational flow between the tasks;

an event association content class for storing declarative conditions to map the state change to the directory object to a workflow object instance of the workflow content class; and

wherein the service class is further configured to execute tasks of the workflow object instance [.] ;

wherein the workflow comprises an XML string based on a set of categorization rules.

74.   (Currently Amended) The computer-readable storage medium of claim 73, wherein the schema further defines a base object content class comprising a flexible attribute data field that indicates a data type, the data type being used to express various operational or data providing properties of the flexible attribute, the various operational or data providing properties being independent of the data type and independent of any modification to the workflow enabled directory schema.

75.   (Currently Amended) The computer-readable storage medium of claim 73, wherein the tasks comprise any combination of declarative conditions and operations corresponding to directory-based objects.

76.   (Currently Amended) The computer-readable <u>storage</u> medium of claim 73, the schema_further defining a status monitoring class for storing a status of an object instance of the workflow content class.

77.   (Cancelled).

78.   (Currently Amended) A computer comprising the processor coupled to a memory comprising the computer-readable <u>storage</u> medium of claim 73.